

TITLE OF THE INVENTION

A POLYNUCLEOTIDE HERPES VIRUS VACCINE

ABSTRACT OF THE DISCLOSURE

Genes encoding herpes simplex virus type 2 (HSV-2) proteins were cloned into eukaryotic expression vectors to express the encoded proteins in mammalian muscle cells *in vivo*. Animals were immunized by injection of these DNA constructs, termed polynucleotide vaccines or PNV, into their muscles. In a DNA titration, it was found that a single immunization of  $\geq 0.5 \mu\text{g}$  of (one) PNV, gave  $>90\%$  seroconversion by ten weeks post immunization. Immune antisera neutralized both HSV-2 and HSV-1 in cell culture. When animals were challenged with HSV-2, significant ( $p < .001$ ) protection from lethal infection was achieved following PNV vaccination. DNA constructs may be full-length, truncated and/or mutated forms and may be delivered along or in combination in order to optimize immunization and protection from HSV infection.

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